



Study on Fishing Craft and Gears of Bhopal District, Madhya Pradesh, India

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ABSTRACT: The present study was conducted on traditional fishing nets and gears that used by professional fishermen in Bhopal district for commercial fish culture practices. Primary data were collected from local fishermen through personal interview, focus group interview, direct observations and questionnaire technique. Secondary data were collected from published data like journals, reports, research findings etc. The study revealed that the different types of fishing nets including gill net, drag net, cast net, scoop net, and hook & lines are used in the locality. The detailed investigation is documented in the current research paper.

Keywords: Fishing net, fishing gears, gill net, district Bhopal.

I. INTRODUCTION

The Bhopal district is famous for its God gifted aesthetic natural beauty and water bodies and also known "City of Lake". It possesses a number of small and large water bodies, which in addition to promoting aquaculture activities also add to the scenic beauty of the city. The city has panoramic view as it stand on the edge of two main water bodies, the Upper lake (Bada Talab) and Lower lake (Chota Talab), along with a few other smaller water bodies, hence it justified its popular name "City of Lake". The panorama depicts that the fishery is having a vast scope in the district.

In district Bhopal approximately 259 water bodies which is covering 6101 hectare area and in addition to this about 215 km length of rivers are reported, which are being used for various purpose like fish culture, drinking, irrigation etc (Fisheries department of Patra; Barkhedi Bhopal, 2011). In Bhopal majority of ponds are perennial in nature. Various methods and means are employed to catch the fish. These means are called crafts and gears, and depend upon the type of fish, nature of the water bodies. In India, fishing crafts and gears used to catch fish are mostly primitive and non-mechanized (Khanna and Singh, 2003).

Fishing nets and gears are refers to those device having different shape and sizes and used in the water body to capture different sizes of fish (Shafiuul Azam *et al.*, 2014). Bhopal have rich fishing resources, which are the essential part not only for fishermen, but also for the people of Bhopal especially rural areas. These are providing direct and indirect jobs and provide economic

benefits in relation to population. Hence, forth no more literature has been found that are cited the available crafts and gears in Bhopal district used in fishing operation. So, the present study was concentrated to find out the different fishing crafts and gears are used in Bhopal district with their detailed description.

MATERIAL AND METHODS

The study was conducted during July 2010 to July 2011 and the data were collected from five water bodies of Bhopal district such as Upper Lake, Lower Lake, Bakania Pond, Bagroda Pond and Khedi Pond. These water bodies are situated in two blocks Phanda and Berasia, of district Bhopal. During the field work all the data and information regarding the various fishing craft and gears and their working procedure were collected through a structured questionnaire, direct observation and interview methods. Focus group and personal interview with the fish farmers were one of the tools which were effectively used in this study.

RESULT AND DISCUSSION

It was found that all selected water bodies are perennial in nature and in the entire water bodies fishing rights rest with the Janapad Panchayat and Nagar Nigam gives them on lease to local fishermen, who in turn partially culture fish and release of fish seed is a common practice. According to the existing policy of M.P. Govt. only the registered co-operative society are empowered for fish catching and marketing of fish from the water bodies.

The natural fish fauna consists of *Catla catla*, *Labeo rohita*, *Cirrhinus mrigala*, *Labeo calbasu*, *Notopterus notopterus*, *Osteobram cotio*, *Puntius sarana*, *Wallago attu*, *Clarius batrachus*, *Hypothalmichthys nobilis*, *Mastacembelus armatus*, *Xenotodon cancila*, *Channa marulius* and exotic carps like *Cprinus carpio* (common carp), *Ctenopharygdon idella* (grass carp), and *Hypothalmichthys molitrix* (silver carp) have become common here. Fishing craft and gears adopted by fish farmers of Bhopal district were simple. Simple tools are used by local fishermen for commercial catches of fish. The craft and gears were mostly old-fashioned, indigenous. All the crafts and gears used in district Bhopal are described below:

A. Fishing Nets

Various methods and means are employed to catch the fish. Any instruments or device to catch the fish is called “gear”, while the crafts are used to carry the fishermen and gears to fishing grounds. Important fishing gears of study areas are as following:

Fande or Fansh Jal: The most common fishing net used in the Bhopal is “Gill Net” locally known as Fansh Jal or Fande. The gill net is set in the evening time and hauled in the morning hours. The mesh size of gill net is observed in range 1 cm to 15 cm.

Ghumau jal or Bhanvar jal: It is known as “Cast Net.” It is operated in shallow water near the shore line to catch small fish. It is circular in shape looking like umbrella, with a strong rope attached to the apex. A number of weights of iron or lead are attached along the margin. The fishermen throws the net skillfully over the water from a boat, in such way that the rope is held in one hand and the net falls on the water surface fully expanded.

The net gradually sinks to the bottom due to weights attached to the margin, and small fish and prawn are entangled in it. The net is hauled with the help of rope. When water level is low, all the fish farmers use that type of net.

Mahajal or Chata jal: It is also known as “Drag net”. Its mesh size is very small (25-50mm) and generally used for removing wild indigenous fishes, and also to catch small fresh water fish species.

Pilna: Other types of net are the Scoop net. It is locally known as Pilna and it is triangular in shape. Made up of mosquito net webbing and it is used for catching very small fishes and prawns.

Chapar: A special type of trap called “Chapar” is also used. It is made of 8-12 bamboo sticks and webbing is attached to these sticks. It is used to catch carnivorous fishes with burrowing habit like catfishes, murels and Eels etc.

Bansi and Kanta: It is known as “Hook and Line”. Fish is caught by offering a baited hook and the gear is operated by hand. In a “hand line” one or more hooks are attached at the end of a cotton line (dori) whose other end is tied to a long bamboo stick. It was observed that the most of the catch in hook and line comprise of carnivorous fishes and such fishing helps in controlling the population of carnivorous fishes and better survival of cultivable fishes. It is a very popular sport fishery in Bhopal.

Fishing Crafts: The crafts used are the wooden flat bottom boat called “Donga”. The wood for construction of boat is teak called as “Sagaun”. Fish farmers also use the tyre tube in the place of boats to catch fishes.



Boat



Gill Net



Hook



Pilna



Donga (Boat)



Cast Net

Fig. 1. Fishing Net and Gears of Study Areas of Bhopal District.

Fishing craft and gears were mostly old-fashioned and indigenous. The similar result finding by Rathakrishnan *et al.*, 2009; Adikant *et al.*, 2011; Manna *et al.*, 2011; Kumar & Kumar, 2013 and Shafiul Azam *et al.*, 2014.

CONCLUSION

In Bhopal district possess a lots number of water bodies with numerous indigenous as well as exotic fish species and in terms of commercial fisheries it is one of the important water bodies of Madhya Pradesh as well as India. These water bodies having a lot of problems regarding fish harvesting. Traditional fishing instruments are mostly used in Bhopal district. Proper training of modern fishing methods should be provided to the fishermen's community by Government for commercial yield of fish production.

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